

**BLACKOUT AND THERMAL DRAPERY AND DRAPERY LINING AND METHOD  
THEREFOR**

**RELATED APPLICATION**

This application claims priority to a corresponding provisional application U.S. Serial No. 60/272,728, filed March 1, 2001 in the name of the applicant of this application.

**FIELD OF THE INVENTION**

This invention relates generally to draperies and drapery linings and, more specifically, to a blackout and thermal drapery and drapery lining and method therefor utilizing a metalized film and being capable of providing a barrier to light, heat and cold.

**BACKGROUND OF THE INVENTION**

Conventional draperies are often designed for style and appearance, being made from various types of fabrics to create a desired visual effect. Such draperies, although providing a level of privacy, are generally not effective in preventing a substantial amount of light penetration into a room from outside sources. It is often the case, however, that certain people need to sleep during daylight hours, necessitating a drapery capable of blacking out natural light to create an atmosphere conducive to sleeping. Additionally, many people are interested in a

blackout drapery in order to prevent outsiders from looking into their home.

For this purpose, several blackout draperies and blackout drapery linings have been created to deal with these problems. Many blackout draperies are in use both in residences as well as in the commercial hotel industry. To achieve the blackout effect, most blackout draperies are created by coating a drapery fabric with an acrylic latex coat that has been mixed with a black pigment, usually carbon black. Carbon black, however, represents a significant sink in the global carbon cycle, affects earth's radiative heat balance, is a carrier for organic pollutants, and is relatively resistant to degradation. Therefore, carbon black presents several serious environmental and ecological problems.

Additionally, by having an outer layer of acrylic latex, rather than a fabric, many current blackout draperies and drapery linings are more likely to wear after repeated cleanings. An outer layer of acrylic latex, as opposed to a fabric, also prevents the drapery from being printed on, dyed, or otherwise decorated.

Although current blackout draperies and blackout drapery linings do provide some thermal barrier effect, they are principally designed to be a barrier to light, not heat or cold. To also provide a thermal barrier effect, specially designed fabrics are currently used to provide this energy savings.

A need therefore existed for a blackout drapery and blackout drapery lining capable of achieving a blackout effect in an environmentally and ecologically sound way while at the same time providing a thermal barrier effect.

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# SUMMARY OF THE INVENTION

An object of the present invention is to provide a blackout drapery having a metalized film capable of providing a blackout effect while at the same time creating a thermal barrier effect in a way that is both environmentally as well as ecologically sound.

It is a further object of the present invention to provide a blackout drapery lining having a metalized film capable of being coupled to a drapery fabric and providing a blackout effect while at the same time creating a thermal barrier effect in a way that is both environmentally as well as ecologically sound.

It is still a further object of the present invention to provide a method for manufacturing a blackout drapery having a metalized film capable of providing a blackout effect while at the same time creating a thermal barrier effect in a way that is both environmentally as well as ecologically sound.

It is yet a further object of the present invention to provide a method for manufacturing a blackout drapery lining having a metalized film capable of being coupled to a drapery fabric and providing a blackout effect while at the same time creating a thermal barrier effect in a way that is both environmentally as well as ecologically sound.

It is yet a further object of the present invention to provide a blackout and thermal barrier drapery having an outer layer of fabric which can be decorated.

It is yet a further object of the present invention to provide a blackout and thermal barrier drapery lining having an outer layer of fabric which can be decorated.

#### BRIEF DESCRIPTION OF THE PREFERRED EMBODIMENTS

In accordance with one embodiment of the present invention, a blackout and thermal drapery lining is disclosed, comprising, in combination, a metalized film having a first side and a second side, a first layer of acrylic latex having a first side and a second side, the second side of the first layer of acrylic latex is coated to the first side of the metalized film, and a second layer of acrylic latex having a first side and a second side, the first side of the second layer of acrylic latex is coated to the second side of the metalized film.

In accordance with another embodiment of the present invention, a blackout and thermal drapery is disclosed, comprising, in combination, a metalized film having a first side and a second side, a fabric having a first side and a second side, the second side of the fabric is coupled to the first side of the metalized film, and a layer of acrylic latex having a first side and a second side, the first side of the layer of acrylic latex is coated to the second side of the metalized film.

In accordance with still another embodiment of the present invention, a blackout and thermal drapery is disclosed, comprising, in combination, a metalized film having a first side

and a second side, a first layer of fabric having a first side and a second side, the second side of the first layer of fabric is coupled to the first side of the metalized film, and a second layer of fabric having a first side and a second side, the first side of the second layer of fabric is coupled to the second side of the metalized film.

In accordance with yet another embodiment of the present invention, a method for manufacturing a blackout and thermal drapery lining is disclosed, comprising, in combination, the steps of providing a film having a first side and a second side, metalizing the first side of the film and the second side of the film, coating a first layer of acrylic latex to the first side of the metalized film, and coating a second layer of acrylic latex to the second side of the metalized film.

In accordance with yet another embodiment of the present invention, a method for manufacturing a blackout and thermal drapery is disclosed, comprising, in combination, the steps of providing a film having a first side and a second side, metalizing the first side of the film and the second side of the film, providing a fabric having a first side and a second side, coupling the second side of the fabric to the first side of the metalized film, and coating a layer of acrylic latex to the second side of the metalized film.

In accordance with yet another embodiment of the present invention, a method for manufacturing a blackout and thermal

drapery is disclosed, comprising, in combination, the steps of providing a film having a first side and a second side, metalizing the first side of the film and the second side of the film, providing a first layer of fabric having a first side and a second side, coupling the second side of the first layer of fabric to the first side of the metalized film, providing a second layer of fabric having a first side and a second side, and coupling the first side of the second layer of fabric to the second side of the metalized film.

The foregoing and other objects, features, and advantages of the invention will be apparent from the following, more particular description of the preferred embodiments of the invention, as illustrated in the accompanying drawings.

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### BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is a perspective, partially exploded view of an embodiment of the blackout and thermal drapery lining of the present invention, showing the metalized film sandwiched between a first layer of acrylic latex and a second layer of acrylic latex.

Figure 2 is a perspective, partially exploded view of one embodiment of the blackout and thermal drapery of the present invention, showing the metalized film sandwiched between a layer of fabric on one side and a layer of acrylic latex on the other side.

Figure 3 is a perspective, partially exploded view of one embodiment of the blackout and thermal drapery of the present invention, showing the metalized film sandwiched between a first layer of fabric on one side and a second layer of fabric on the other side.

Figure 4 is a perspective, partially exploded view of one embodiment of the blackout and thermal drapery of the present invention, showing the metalized film sandwiched between two layers of acrylic latex with a layer of fabric coupled to one of the layers of acrylic latex.



# DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring to Figure 1, one embodiment of the blackout and thermal drapery lining, hereinafter blackout and thermal drapery lining 10, is shown. The blackout and thermal drapery lining 10 is comprised of a metalized film 12 having a first side 14 and a second side 16.

Preferably, the film substrate of the metalized film 12 is comprised of polypropylene, although it should be clearly understood that substantial benefit could be derived from an alternative configuration of the blackout and thermal drapery lining 10 in which the film substrate of the metalized film 12 is comprised of an alternative substance other than polypropylene, such as polyester film, PVC film, polyurethane film, polyethylene film, or the like.

In the preferred embodiment, the metalized film 12 is metalized with aluminum, although it should be clearly understood that substantial benefit could be derived from an alternative configuration of the blackout and thermal drapery lining 10 in which the metalized film 12 is metalized with an aluminum alloy, titanium, tungsten, a combination thereof or blends of other metal components so long as the metalized film 12 is capable of being either light impermeable or a thermal barrier, or both.

Preferably, the aluminum or other metal used to metalize the metalized film 12 has an optical rating of between 1.5 and 4.0, although it should be clearly understood that substantial benefit

could be derived from an alternative configuration of the blackout and thermal drapery lining 10 in which the optical rating of the aluminum or other metal deviates, even substantially, from the preferred optical rating in either direction.

In the preferred embodiment, the aluminum or other metal used to metalize the metalized film 12 has a thickness of between .0002 and .03 millimeters, although it should be clearly understood that substantial benefit could be derived from an alternative configuration of the blackout and thermal drapery lining 10 in which the thickness of the aluminum or other metal deviates, even substantially, from the preferred thickness in either direction.

The blackout and thermal drapery lining 10 further comprises a first layer of acrylic latex 18 having a first side 20 and a second side 22, although it should be understood that in addition to acrylic, urethanes or a blend of urethane and acrylic is also contemplated. The second side 22 of the first layer of acrylic latex 18 is coated to the first side 14 of the metalized film 12. The blackout and thermal drapery lining 10 further comprises a second layer of acrylic latex 24 having a first side 26 and a second side 28. The first side 26 of the second layer of acrylic latex 24 is coated to the second side 16 of the metalized film 12.

In one embodiment, the first side 20 of the first layer of acrylic latex 18 is flocked and the second side 28 of the second layer of acrylic latex 24 is flocked; although it should be clearly understood that substantial benefit could be derived from an alternative configuration of the blackout and thermal drapery lining 10 in which only the first side 20 of the first layer of acrylic latex 18 is flocked or only the second side 28 of the second layer of acrylic latex 24 is flocked, or neither layer of acrylic latex is flocked.

In one embodiment, the first side 20 of the first layer of acrylic latex 18 is flame retardant and the second side 28 of the second layer of acrylic latex 24 is flame retardant, although it should be clearly understood that substantial benefit could be derived from an alternative configuration of the blackout and thermal drapery lining 10 in which only the first side 20 of the first layer of acrylic latex 18 is flame retardant or only the second side 28 of the second layer of acrylic latex 24 is flame retardant, or neither layer of acrylic latex is flame retardant.

Referring now to Figure 4, the blackout and thermal drapery lining 10 is dimensioned to be lined to a fabric 30 in order to create a blackout and thermal drapery. By coupling to a fabric 30 a blackout and thermal drapery lining 10 having two layers of acrylic latex, the fabric 30 can be printed on without any discoloration. In the preferred embodiment, the fabric 30 has a width of between 36 inches and 180 inches, although it should be

clearly understood that substantial benefit could be derived from an alternative configuration of the blackout and thermal drapery lining 10 in which the width of the fabric deviates, even substantially from the preferred width, in either direction. The fabric 30 is coupled to the first side 20 of the first layer of acrylic latex 18, although it should be clearly understood that substantial benefit could be derived from an alternative configuration of the blackout and thermal drapery lining 10 in which the fabric 30 is instead coupled to the second side 28 of the second layer of acrylic latex 24.

Referring now to Figure 2, a blackout and thermal drapery, hereinafter blackout and thermal drapery 100 is disclosed. The blackout and thermal drapery 100 is substantially the same as the blackout and thermal drapery lining 10, except that in the blackout and thermal drapery 100 a fabric 30 replaces one of the layers of acrylic latex that is present in the blackout and thermal drapery lining 10, making the blackout and thermal drapery 100 a drapery, instead of a drapery lining. For this reason, the same reference numbers used in describing the features of the blackout and thermal drapery lining 10 will be used when describing the identical features of the blackout and thermal drapery 100. The blackout and thermal drapery 100 comprises a metalized film 12 having a first side 14 and a second side 16. The blackout and thermal drapery 100 comprises a fabric 30 having a first side 34 and a second side 36. The second side

36 of the fabric 30 is coupled to the first side 14 of the metalized film 12. The fabric 30 may be woven or non-woven. The blackout and thermal drapery 100 further comprises a layer of acrylic latex 24 having a first side 26 and a second side 28. The first side 26 is coated to the second side 16 of the metalized film 12.

Referring now to Figure 3, a blackout and thermal drapery, hereinafter blackout and thermal drapery 200 is disclosed. The blackout and thermal drapery 200 is substantially the same as the blackout and thermal drapery 100, except that in the blackout and thermal drapery 200 a second layer of fabric 38 replaces the layer of acrylic latex 24 that is present in the blackout and thermal drapery 100. For this reason, the same reference numbers used in describing the features of the blackout and thermal drapery 100 will be used when describing the identical features of the blackout and thermal drapery 200. The blackout and thermal drapery 200 comprises a metalized film 12 having a first side 14 and a second side 16. The blackout and thermal drapery 200 comprises a first layer of fabric 30 having a first side 34 and a second side 36. The second side 36 of the first layer of fabric 30 is coupled to the first side 14 of the metalized film 12. The blackout and thermal drapery 200 comprises a second layer of fabric 38 having a first side 40 and a second side 42. The first side 40 of the second layer of fabric 38 is coupled to the second side 16 of the metalized film 12. The two layers of

